ARS-7000 ALS

Combat SAR – Airborne Locator System (ALS)

Recovering a downed aircrew or picking up Special Forces in hostile territory is a risky and complicated mission. The ARS-7000 Airborne Locator System (ALS) directly addresses the challenge even in the most unfriendly areas, delivering a new level of security, accuracy and flexibility.

The ARS-7000 ALS draws on extensive operational experience with previous generations of personnel locator systems and translates feedback into a system that sets new standards.

Developed to meet the stringent operational specifications of the Israeli Air Force, the ARS-7000 ALS enables rescue aircraft to pursue the safest and shortest route to first pass rescue.

Using advanced Direction Finding (DF) techniques, combined with GPS geolocation data extracted from survivor/evader's PRC-434G/CS(W) Personal Survival Radio (PSR), the ARS-7000 ALS quickly and accurately measures the range and bearing to the PSR, allowing rescue aircraft to fly along the safest and shortest possible route to retrieve personnel on the ground and get them out of harm's way.

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The ARS-7000 can remotely activate the PRC-434G/CS(W) PSR in beacon mode, enabling transmission of beacon signals so that missions can be accomplished even if personnel are unconscious or disabled.

Operating Highlights:

- **Immediate, secure location.** Just a single interrogation and response session via a unique communication protocol is needed to remotely acquire the ID of the survivor/evader's PSR and pinpoint its exact location. The system automatically acquires and stores the ID code, operational channel, and GPS coordinates, with the information displayed on the Command and Display Unit (CDU) screen.
- **Standalone system**. To achieve optimal operational performance and guarantee successful completion of rescue missions, the ARS-7000 is configured as a full-featured, standalone Personnel Locator System, providing full voice, interrogation, DF and messaging capabilities independently from other aircraft avionics system.
- **Clear, comprehensive guidance**. The CDU interfaces between the user and the system, and displays position, range and bearing data in quantitative form: angle in degrees and range in kilometers/miles, together with the GPS coordinates extracted from the personnel's radio.
- **Flexible channel selection** and voice communication capability
- **Compatible and interoperable** with other NATO Personnel Recovery (PR) systems.
- **Combat proven** – installed in many types of helicopters all over the world
- **Extended life-cycle**. The ARS-7000 is a software-intensive, easily upgradable system with a powerful computer, resulting in a life cycle expectancy of over 15 years

Typical Applications:

- Personnel Recovery missions
- Covert Special Forces retrieval missions
- Rendezvous missions in hostile territories

Performance Highlights:

- Highly accurate range measurements and 360˚ DF at over 100 km operational range
- Secure short-burst interrogation (0.6 sec.) and Selective Call Codes – help keep personnel and rescue crew
- UHF and Data communication capabilities

Technical Highlights

Range	225-299.975 MHz
Number of channels	3000 including ten programmable channels
Number of Selective Call Codes	Up to 1 million (1,000,000)
Operating Modes	Test, Program, Interrogation (single/multiple), ADF (single/multiple frequencies), Voice, GPS/Message, Search, Erase. Optional, Data Relaying mode
Modulation Type	AM (Voice), OOK (On-Off Keying), PSK
Receiver Sensitivity	–108 dBm for S+N/N-10 dB
Power Requirements	10A, 28Vdc
Power Output	SW
Operating Temperatures	–40˚C to 55˚C

Elbit Systems™ C⁴I and Cyber

Elbit Systems C⁴I and Cyber
2 Hamachshev St., Netanya 4250712, Israel
E-mail: c4icyber.info@elbitsystems.com www.elbitsystems.com

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